

CLAIMS

We claim:

1. An insulated bond wire comprising:
 - a bond wire;
 - an insulating material coating said bond wire; and
 - a first end of said bond wire connected to a bond pad.
2. The insulated bond wire of claim 1 wherein said bond wire material is selected from a group including gold, silver, aluminum, and copper.
3. The insulated bond wire of claim 1 wherein said insulating material is comprised of a polymer.
4. The insulated bond wire of claim 1 wherein the thickness of said insulating material on said bond wire is in the range of approximately 0.2 micrometers to 0.6 micrometers.
5. The insulated bond wire of claim 1 wherein said bond wire is connected to said bond pad through an ultrasonic bond.
6. The insulated bond wire of claim 1 further comprising said bond pad connected to an integrated circuit.
7. The insulated bond wire of claim 1 further comprising said bond pad connected to a substrate.

1 8. A pair of bond wires comprising:

2 a first bond wire;

3 an insulating material coating said first bond wire;

4 a first end of said first bond wire connected to a bond pad; and

5 a second bond wire crossing said first bond wire.

1 9. The pair of bond wires of claim 8 further comprising an insulating material coating
2 said second bond wire.

3 10. The pair of bond wires of claim 8 wherein said first bond wire touches said second
4 bond wire.

5 11. An integrated circuit assembly comprising:

an integrated circuit;

a substrate;

4 a bond wire connected to said integrated circuit and said substrate; and

5 an insulating material coating said bond wire.

1 12. The integrated circuit assembly of claim 11 wherein said substrate is selected from
2 a group including printable circuit boards, aluminum lead frames, and fine pitch ball grid
3 arrays.

1 13. The integrated circuit assembly of claim 11 wherein said insulating material is
2 comprised of a polymer.

14. The integrated circuit assembly of claim 11 wherein said bond wire material is selected from a group including gold, silver, aluminum, and copper.

15. An integrated circuit assembly comprising:
a first integrated circuit;
a second integrated circuit;
a bond wire connected to said first integrated circuit and said second integrated circuit; and
an insulating material coating said bond wire.

16. The integrated circuit assembly of claim 15 wherein said substrate is selected from a group including printable circuit boards, aluminum lead frames, and fine pitch ball grid arrays.

17. The integrated circuit assembly of claim 15 wherein said insulating material is comprised of a polymer.

18. The integrated circuit assembly of claim 15 wherein said bond wire material is selected from a group including gold, silver, aluminum, and copper.

19. A method of connecting a bond wire to a bond pad comprising:
providing a bond wire;
coating an insulating material to said bond wire; and
connecting a first end of said bond wire to a bond pad.

20. The method of claim 19 further comprising removing said insulating material from
said first end of said bond wire.

21. The method of claim 19 wherein said connecting an insulating material to said
bond wire comprises:

coating said bond wire in liquid insulating material; and

curing said liquid insulating material on said bond wire.

22. The method of claim 19 wherein said connecting an insulating material to said
bond wire comprises:

coating said bond wire in liquid insulating material; and

cooling said liquid insulating material on said bond wire.

23. The method of claim 20 wherein said insulating material is removed from said first
end of said bond wire by vaporization.

24. The method of claim 20 wherein said insulating material is removed from said first
end of said bond wire by stripping.

25. The method of claim 20 wherein said insulating material is removed from a first
end of said bond wire by dissolving said insulating material off said first end of said bond
wire with a solvent.

26. The method of claim 21 further comprising drying said coated insulating material.

- 1 27. The method of claim 22 further comprising drying said coated insulating material.